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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,436	04/18/2001	Ophir Frieder	IIT-169	3971

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HAMILTON, MONPLAISIR G

ART UNIT	PAPER NUMBER
2172	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/837,436	Applicant(s) FRIEDER ET AL.	
	Examiner Monplaisir G Hamilton	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sh t with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. Claims 1-27 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 4/18/01 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 5-15, 19-22 and 27-28 are rejected under 35 U.S.C. 102(a) as being anticipated by US 6078314 issued to Redfern, herein referred to as Redfern.

Referring to Claim 5:

Redfern discloses a method of digital data gathering for providing an answer to a natural language question, comprising:

a) accepting input of a natural language question (col 3, lines 18-19);

b) identifying the relevant concepts of the natural language question (col 4, lines 30-65);

c) assembling the relevant concepts of the natural language question into a query (col 6, lines 10-20);

d) identifying a structured data source likely to contain an answer to the query (col 9, lines 20-30);

e) performing a first search of the query in the structured data source (col 9, lines 8-10);

f) performing a second search of the query in an unstructured data

source (col 9, lines 1-5);

g) integrating the results of the first and second searches and selecting an answer to the natural language question (col 10, lines 45-50); and

h) displaying the selected answer to the natural language question (col 10, lines 60-65).

Referring to Claim 6:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses providing an answer to a natural language question, according to Claim 5, further comprising: providing a most likely answer to the natural language question (col 10, lines 60-65).

Referring to Claim 7:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses eliminating redundant search results and ranking search results in order of relevance (col 10, lines 45-52).

Referring to Claim 8:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses routing the query and identified structured data source to a structured data source manager (col 9, lines 15-30).

Referring to Claim 9:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses providing the structured data source in a physical data warehouse (col 9, lines 5-12; col 10, lines 55-65).

Referring to Claim 10:

Redfern discloses the limitations as discussed in Claim 9. Redfern further discloses identifying the structured data source via a meta-data source for the physical data warehouse (col 16, lines 5-15).

Referring to Claim 11:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses eliminating irrelevant words of the natural language question from use in the query (col 2, lines 55-60).

Referring to Claim 12:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses routing the query to an unstructured data source manager (col 9, lines 1-10).

Referring to Claim 13:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses displaying data related to the answer (col 10, lines 59-65).

Referring to Claim 14:

Redfern discloses the limitations as discussed in Claim 5. Redfern further discloses: accumulating search results for a specified time or specified number of results before displaying the answer (col 11, lines 39-42).

Referring to Claim 19:

Redfern discloses an intranet mediator for providing a most likely answer to a natural language question, comprising: a) a user interface with:

i) a natural language question input module for accepting natural language questions (col 2, lines 50-61); and

ii) an answer module for display of the most likely answer (col 3, lines 5-10); b) a parser module for identifying the relevant concepts of the natural language question, assembling the relevant concepts of the natural language question into a query and eliminating irrelevant words of the natural language question from use in the query (col 4, lines 35-55); c) an unstructured data source manager for managing query input to, and accepting results from, unstructured data sources (col 9, lines 15-25); d) a data source selection module for accepting the query from the parser and for identifying a data source likely to contain an answer to the query (col 9, lines 20-23); the data source selection module being connectable to a meta-data source for a physical data warehouse (col 16, lines 5-15) e) a dispatcher module for accepting the query from the parser and for accepting the identified data source from the data source selection module and routing the query and identified data source to a structured data source manager or an unstructured data source manager, or both (col 8, line 65-col 9, lines 13); f) a structured data source manager for

accepting the query from the dispatcher and performing a search of the query in the data warehouse and forwarding the results of the search to a results manager module (col 9, lines 8-10); g) the unstructured data source manager further accepting the query and any identified unstructured data sources from the dispatcher and performing a search of the query in the identified unstructured data sources and forwarding the results of the search to a results manager (col 9, lines 1-35); and h) a results manager module for accepting the results of the structured and unstructured data source searches and integrating the results of the searches and selecting the most likely answer and forwarding the most likely answer to the answer module (col 10, lines 40-65).

Referring to Claim 20:

Redfern discloses the limitations as discussed in Claim 19. Redfern further discloses the natural language question input module being constructed and arranged for allowing the user to manually select data sources if desired (col 9, lines 20-30).

Referring to Claim 21:

Redfern discloses the limitations as discussed in Claim 19. Redfern further discloses the answer module being constructed and arranged for display of the most likely answer and data associated therewith (col 10, lines 55-65).

Referring to Claim 22:

Redfern discloses the limitations as discussed in Claim 21. Redfern further discloses means for accumulating search results for a specified time or specified number of results before displaying the answer (col 11, lines 39-42).

Referring to Claim 27:

An intranet mediator for providing a most likely answer to a natural language question, comprising: a) a physical data warehouse containing structured data sources (col 9, lines 5-10); b) unstructured data sources (col 9, lines 1-6); c) a meta-data repository having meta-data for the structured data sources (col 9, lines 5-10); d) a natural language question input module for accepting natural language queries and allowing the user to manually select data sources if desired (col 2, lines 55-60; col 9, lines 20-30); e) a parser module for identifying the relevant concepts of the natural language question, assembling the relevant concepts of the natural language question into primary query tokens and eliminating irrelevant words of the natural language question from use as primary query tokens, and for accepting results from a query expander module (col 4, lines30-40); f) a query expander module for accepting the primary query, determining analogous terms to the primary query tokens, and forwarding the primary query tokens and the analogous terms to an unstructured data source manager, and assembling enhanced query tokens from the results (col 11, lines 10-30); g) an unstructured data source manager for managing enhanced query token input to, and accepting search results from, the unstructured data sources (col 9, lines 40-col 10, lines 20); h) a data source selection module for accepting the enhanced query from the parser module and connectable to the meta-data source

for the physical data warehouse, and for identifying a data source likely to contain an answer to each of the enhanced query tokens (col 9, lines 10-30); i) a dispatcher module for accepting the enhanced query tokens from the parser and for accepting the identified data sources from the data source selection module and routing the enhanced query tokens and identified data sources to a structured data source manager and an unstructured data source manager (col 9, lines 10-30); j) a structured source manager for accepting the enhanced query tokens and the identified structured data sources from the dispatcher and performing a search of the enhanced query tokens in the identified structured sources and forwarding the results of the search to a results manager module (col 9, lines 5-10); k) the unstructured source manager further accepting the enhanced query tokens and identified unstructured data sources from the dispatcher and performing a search of the enhanced query tokens in the identified unstructured data sources and forwarding the results of the search to a results manager (col 9, lines 25-65); l) a results manager module for accepting the results of the structured and unstructured data source searches for each enhanced query token and integrating the results of the searches and selecting the most likely answer to the natural language question and forwarding the most likely answer to the answer module; and m) an answer module for display of the most likely answer and associated data links (col 10, lines 40-60).

Referring to Claim 28:

Redfern disclose the limitations as discussed in Claim 27 above. Redfern further discloses the meta-data repository having meta-data for at least some of the unstructured data sources (col 9, lines 40-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6263342 issued to Chang et al, herein referred to as Chang further in view of US 5960422 issued to Prasad, herein referred to Prasad.

Referring to Claim 1:

Chang discloses a method for digital data gathering in response to a query, comprising: conducting concurrent searching of structured and unstructured data sources (col 1, lines 5-10)

Chang does not explicitly disclose the "preselecting data sources most likely to contain a valid response to the query before submitting the query to the data sources".

Prasad discloses preselecting data sources most likely to contain a valid response to the query before submitting the query to the data sources (col 2, lines 50-55).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Chang to preselect relevant sources based on a query. One of ordinary skill in the art would have been motivated to do this because it would prevent the user from being overloaded with irrelevant information (col 1, lines 10-30).

Referring to Claim 2:

Chang in view of Prasad discloses the limitation as discussed in Claim 1 above. Chang further discloses combining results from said structured and unstructured data source searches (col 3, lines 55-65).

Referring to Claim 3:

Chang in view of Prasad discloses the limitation as discussed in Claim 1 above. Chang further discloses combining results from said structured and unstructured data source searches and sorting the results for providing a direct answer (col 3, lines 55-65; col 57, lines20-30).

Referring to Claim 4:

Chang in view of Prasad discloses the limitation as discussed in Claim 1 above. Chang further discloses combining structured data sources into a physical data warehouse with a meta-data repository (col 4, lines 30-40).

5. Claims 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6078314 issued to Redfern, herein referred to as Redfern in view of US 5802536 issued to Yoshii et al.

Referring to Claim 15 and 23:

Redfern discloses the limitations of Claim 5 and 21 above.

Redfern does not explicitly disclose "accumulating additional search results after displaying the answer".

Yoshii discloses accumulating additional search results after displaying the answer (col 2, lines 15-45).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Redfern such that additional results can be displayed. One of ordinary skill in the art would have been motivated to do this because it would allow the user to search a plurality of sources and display the results as they are received (col 2, lines 10-30).

6. Claims 16-18, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6078314 issued to Redfern, herein referred to as Redfern in view of US 5802536 issued to Yoshii et al, further in view of US 6304864 issued to Liddy et al, herein referred to as Liddy.

Referring to Claim 16 and 24:

Redfern in view of Yoshii disclose the limitation as discussed in Claim 15 and 23 above.

Redfern in view of Yoshii do not explicitly disclose updating the ranking of the search results by incorporating the additional search results.

Liddy discloses updating the ranking of the search results by incorporating the additional search results (col 11, lines 25-40).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Redfern in view of Yoshii to update the ranking to

include the new search results. One of ordinary skill in the art would have been motivated to do this because it would allow the user to see all results that relevant to the query (col 11, lines 50-60).

Referring to Claim 17 and 25:

Redfern in view of Yoshii and Liddy disclose the limitation as discussed in Claim 16 and 24 above. Liddy further discloses providing a second display updating the ranking of the search results by incorporating the additional search results (col 11, lines 50-60).

Referring to Claim 18 and 26:

Redfern in view of Yoshii and Liddy disclose the limitation as discussed in Claim 17 and 25 above. Redfern further discloses the second display updating the ranking of the search results is manually actuated (col 15, lines 20-30).

Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6523028 issued to DiDomizio, Virginia Ann et al. DiDomizio discloses a method and system for accessing information or data from distributed databases is disclosed. Generally, the method includes the steps of receiving an unstructured query from a user, generalizing the query to expand the query, receiving from the user selected terms of the expanded query, searching a directory for database tables and/or attributes matching the selected terms, and generating a pictorial query using database tables suggested as relevant by the search.

US 6173279 issued to Levin, Esther et al. Levin discloses a method of using at least one natural language query to retrieve information from one or more data resources and further performing a requested action using the retrieved information is disclosed. At least one natural language query directed to retrieving particular information is received. At least one object from the natural language query is extracted. The relationship between each of the at least one extracted objects is determined. A semantic representation is created from the at least one extracted objects. The semantic representation is compared to a knowledge structure. The knowledge structure is comprised of one or more grammars, which are extracted from a plurality of data resources. The semantic representations are matched to the grammar. A database query is generated based on the matched objects. The query is applied to one or more of the data resources and information is retrieved.

US 5963940 issued to Liddy, Elizabeth D. et al. Liddy discloses techniques for generating sophisticated representations of the contents of both queries and documents in a retrieval system by using natural language processing (NLP) techniques to represent, index, and retrieve texts at the multiple levels (e.g., the morphological, lexical, syntactic, semantic, discourse, and pragmatic levels) at which humans construe meaning in writing. The user enters a query and the system processes the query to generate an alternative representation, which includes conceptual-level abstraction and representations based on complex nominals (CNs), proper nouns (PNs), single terms, text structure, and logical make-up of the query, including mandatory terms.

US 5901287 issued to Bull, David Stanley et al. Bull discloses an information aggregation and synthesization system and process. The present invention provides aggregation and packaging of structured or unstructured information from disparate sources such as those available on a network such as the Internet. A network compatible/addressable interface device is operated by a user. The network interface device communicates with local datastores or network accessible datastores via an addressing scheme such as Uniform Resource Locator addresses (URLs) utilized by the Internet. Data passing between the network interface device and the datastores is accessed, polled, and retrieved through an intermediary gateway system.

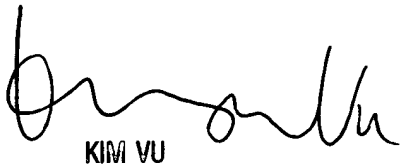
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monplaisir G Hamilton whose telephone number is 1703-305-5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 1703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 1703-746-7239 for regular communications and 1703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 1703-305-3900.

Monplaisir Hamilton
July 13, 2003



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